Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Federally Enforceable Conditional Major Final Permit - No. F-07-008
Saturn Machine & Welding, Inc.
Sturgis, Kentucky
April 20, 2007
SANDRA COOKE, REVIEWER

SOURCE DESCRIPTION:

Saturn Machine & Welding, Inc. designs and fabricates coke oven equipment. Various steels are cut, machined and welded to fabricate the equipment. The finished equipment is then sandblasted and painted. Operations consist predominately of equipment that heats parts to the required temperature. After a predetermined period of time the metal parts are placed in a quench tank and cooled slowly to attain the desired hardness. Vapors from the quench tank are emitted from a forced air vent in the side of the building.

PUBLIC COMMENT

Notice of the draft of this permit, F-07-008, was published on February 14, 2007. The 30-day public comment period ended on March 16, 2007. No comments were received.

COMMENTS:

Emissions from arc welders, wire feed welders, TIG welders, cutting torches, and table torches were calculated using "Fumes and Gases in the Welding Environment – American Welding Society", Table B25 and Table 2.18.

Manganese makes up 12% of the particulate emissions from the shop area.

The emissions from the parts washers were calculated from the usage rates of mineral spirits and Tapfree. All the solvents are assumed to be emitted. The Tapfree is also used as a cleaner in the high bay fabrication shop, old shop and the bay shop.

The emissions for the quench tank were calculated from the usage rate, vapor pressure, and molecular weight of the quench tank oil.

The emissions of the sandblasting area were calculated from the usage rates of the blasting grit and the amount abraded.

The paint shop has two electrostatic spray guns and one air atomized spray gun. Emissions were calculated with 25% over spray from the electrostatic and 50% for the atomized and 100% emission of the solvents.

Hazardous and toxic emissions result from all welding, cutting, painting, and washing operations. The potential emission of xylene is 33.46 TPY. To preclude Title V and MACT applicability, the permittee has taken a voluntary limit of 9 tons per year for any individual HAP and maximum total of combined HAPs emissions under 20 tons in a rolling 12-month period. If the permitee exceeds these limits, the facility will become subject to 40 CFR PART 63, NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES, Subpart MMMM,

National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products, and must comply with all requirements of this subpart.

PERIODIC MONITORING:

Monitoring of particulate emissions is accomplished through weekly stack/vent Method 9 observations. When opacity is over the standard, the permittee must apply a Method 9 test and make necessary repairs. In the original permit, observer perception was used to establish the compliance, but in the years since it's issuance, the U.S. EPA has repeatedly required that an actual Method 9 be performed and conditions recorded in establishing opacity compliance.

CREDIBLE EVIDENCE:

This permit contains provisions that require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.